

**REMARKS**

The present remarks are in response to the Final Office Action of May 3, 2005. Claims 1-27 are currently pending. Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, the Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the Office Action, the following rejections were made:

- (1) claims 1, 3-11, and 13-20 were rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over U.S. Pat No. 6,177,498 (hereinafter "Rehman");
- (2) claims 21 and 23-27 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rehman in view of U.S. Pat No. 6,379,443 (hereinafter "Komatsu"); and
- (2) claims 2, 12 and 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rehman in view of U.S. Pat No. 5,571,311 (hereinafter "Belmont").

Rejections over Rehman

The Examiner has rejected claims 1, 3-11, 13-20 and 23-27 under 35 U.S.C. 102(b) as being anticipated by Rehman, or in the alternative, as being unpatentable under 35 U.S.C. 103(a) over Rehman. Before discussing the rejections under 35 U.S.C. 102(b) and 103(a), it is thought proper to briefly state what is required to sustain such a rejection.

It is well settled that "[a] claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987). In order to establish anticipation under 35 U.S.C. §102, all elements of the claim must be found in a single reference. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986), cert. denied 107 S.Ct. 1606 (1987). In particular, as pointed out by the court in *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1981), cert. denied, 469 U.S. 851 (1984), "anticipation requires that each and every element of the claimed invention be disclosed in a prior art reference." "The identical invention must be shown in as complete detail as is contained in the...claim." *Richardson v. Suzuki Motor Co.* 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989).

Regarding obviousness, the issue under § 103 is whether the PTO has stated a case of *prima facie* obviousness. According to the MPEP § 2142, the Examiner has the burden and must establish a case of *prima facie* obviousness by showing some motivation in a prior art reference to modify that reference, or combine that reference with multiple references, to teach all the claim limitations in the instant application. Applicant respectfully asserts the Examiner has not satisfied the requirement for establishing a case of *prima facie* obviousness in this rejection.

As noted previously, Rehman discloses latex-containing inks that have a solvent system including at least two solvents, i.e. 3-hexyne-2,5-diol and 1,2-octanediol, which work together to improve the start-up, drop ejection, decap, and high frequency firing of the latex polymer-containing ink-jet inks. The material 1,3,5-(2-methyl)-pentanetriol is mentioned as a co-solvent that can also be included in the ink-jet ink (as at least a third co-solvent), along with many other possible co-solvent candidates.

The presently claimed invention provides a system for printing images on a substrate, having a black ink-jet ink which includes a liquid vehicle, a methylated pentanetriol co-solvent, and a dispersant-functionalized black carbon pigment. According to claims 1 and 11, the present application claims a system and a method that are capable of jetting a black ink-jet ink composition from a printhead at a firing frequency from 15 kHz to 25 kHz. Rehman, on the other hand, fails to teach of a system or method that can achieve a firing frequency from 15 kHz to 25 kHz. Rehman does teach an ink composition that is capable of being fired at a frequency of 10 kHz, but this however, fails to fall within the claimed range of 15 kHz to 25 kHz. Therefore the present invention cannot be anticipated since each and every element has not been found in Rehman. Thus, withdrawal of this rejection under 35 U.S.C. 102(b) over Rehman is respectfully requested.

As discussed in the previous Office Action response, it would not have been obvious by one skilled in the art to invent a system capable of firing black ink-jet ink at about 15 kHz to 25 kHz in view of Rehman. Rehman teaches ink-jet inks capable of being jetted at a high firing frequency of 10 kHz. This is to say that at the time of the Rehman invention the state of the art was capable of firing at 10 kHz but not at frequencies that exceeded that. Therefore, the compositions claimed in Rehman were configured to be jetted from a system having a firing frequency of 10 kHz. Therefore, if the state of the art at the time of Rehman was 10 kHz it would not have been obvious to devise a system that was capable of jetting inks that exceeded this frequency because one skilled in the art, at this time, would have thought frequencies above 10 kHz would be unattainable. As previously stated, obvious to try is not the same as obviousness, and the fact that it may be obvious to want to achieve faster firing frequencies cannot be used to render an invention obvious that actually achieves those faster firing frequencies.

Regarding the ink-jet composition of the present invention, specifically independent claim 21, an ink-jet ink composition comprises a mixture of three component, namely a) a liquid vehicle having from 15 wt% to 30 wt% organic solvent, wherein from 3 wt% to 10 wt% of the organic solvent is 3-methyl-1,3,5-pantanetriol; b) from 1 wt% to 6 wt% of a dispersant-functionalized black carbon pigment; and c) from 0.1 wt% to 4 wt% of an ammonium salt. The Rehman

reference teaches incorporating a 1,3,5-(2-methyl)-pentanetriol compound with the ink composition. The Rehman reference, however, fails to teach a 3-methyl-1,3,5-pantanetriol compound. These two compounds are structurally different. The 3-methyl-1,3,5-pantanetriol is symmetrical, while the 1,3,5-(2-methyl)-pentanetriol is asymmetrical. Therefore, there the applicant submits that these two components may functionally be different also. Irregardless, the Rehman reference does teach using a 3-methyl-1,3,5-pantanetriol compound. Thus, claim 21 is believed to be patentable over Rehman, and reconsideration of this claim set is respectfully requested.

Rejection under 35 U.S.C. 103(a) in view of Komatsu and Belmont

The Examiner has also rejected claims 21 and 23-27 under 35 U.S.C. 103(a) as being unpatentable over Rehman in view of Komatsu, and claims 2, 12 and 22 under 35 U.S.C. 103(a) as being unpatentable over Rehman in view of Belmont. The Examiner has indicated that this obviousness rejection is based on the teaching that Komatsu discloses the use of ammonium salts and Belmont discloses an aqueous ink-jet ink composition having a carbon black pigment resulting in an ink composition size of about 0.06 microns which is within the claimed range of the present invention. The Applicant, however, submits that the rejections concerning the Rehman reference have been overcome as discussed above and these rejections are now rendered moot. Reconsideration of these rejections is also respectfully requested.

**CONCLUSION**

In view of the foregoing, Applicant believes that claims 1-27 present allowable subject matter and allowance is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to telephone Bradley Haymond at (541-715-0159) so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any overpayment to Deposit Account No. 08-2025.

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Respectfully submitted,



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